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IN THE CLAIMS:

**1.** (*currently amended*) A method of making an optical preform, the method comprising the steps of:

a) providing an optical preform tube;

b) depositing a porous, unsintered soot layer within the inner surface of said tube;

c) exposing the porous, unsintered soot layer to a flow of a metal halide in an oxygen-free ambient ~~that does not include oxygen~~ for a period of time sufficient to ~~significantly reduce~~ eliminate the presence of excess oxygen defects in said soot layer;

d) sintering the metal halide-treated soot layer in an oxygen-free ambient ~~that does not include oxygen~~ to form an amorphous glass layer; and

e) collapsing said sintered preform tub of step d) to form a solid core optical fiber preform.

**2.** *(original)* The method as defined in claim 1 wherein prior to performing step b), one or more cladding layers are deposited on the inner surface of the preform tube provided in step a).

**3.** *(original)* The method as defined in claim 2, wherein the one or more cladding layers comprise a depressed-index cladding.

**4.** *(currently amended)* The method as defined in claim 3, wherein ~~in~~ one or more fluorine-doped cladding layers are deposited.

**5.** *(original)* The method as defined in claim 1 wherein in performing step b), the soot is deposited using a low temperature process.

**6.** *(original)* The method as defined in claim 1 wherein in performing step b), the deposit soot comprises $SiO_2$.

7. *(currently amended)* The method as defined in claim 6 wherein in performing step b), the deposited $SiO_2$ soot is doped with a material chosen from the group consisting of Al, Si, P, Cl, Ge, Ga, Ta, Pb, and Li.

8. *(original)* The method as defined in claim 5 wherein the soot deposition temperature is in the range of approximately 1400 - 1900 °C.

9. *(original)* The method as defined in claim 8 wherein the soot deposition temperature is maintained at a value of approximately 1650°C.

10. *(original)* The method as defined in claim 1 wherein in performing step c), the metal halide used is $SiCl_4$.

11. *(original)* The method as defined in claim 1 wherein in performing step c), the metal halide used is $GeCl_4$.

12. *(original)* The method as defined in claim 1 wherein in performing step c), the flow is maintained for a time period of at least ten minutes to at most ten hours.

13. *(original)* The method as defined in claim 1 wherein in performing step c), the metal halide treatment is performed in an ambient of He and $N_2$.

14. *(original)* The method as defined in claim 1 wherein in performing step c), the metal halide treatment is performed in a temperature range of 800 - 1500 °C.

15. *(original)* The method as defined in claim 1 wherein in performing step d), the sintering is performed in an ambient of He and/or $N_2$.

16. *(original)* The method as defined in claim 1 wherein in performing step d), the sintering is performed at a temperature of approximately 2200°C.

17. *(original)* The method as defined in claim 1 wherein in performing step e), the collapsing occurs in an ambient of $Cl_2$ and/or He.

**18.** *(original)* The method as defined in claim 1 wherein in performing step e), the collapsing occurs at a temperature of approximately 2200°C.

**19.** *(currently amended)* A method of making an optical preform, the method comprising the steps of:

a) providing an optical preform tube;

b) depositing a porous, unsintered soot layer within the inner surface of said preform tube;

c) sintering the soot layer in an <u>oxygen-free</u> environment of $SiCl_4$, He and $H_2$ to form an amorphous glass layer; and

d) collapsing said sintered, metal halide-treated preform tube of step c) to form a solid core optical fiber preform.

**20.** *(original)* The method as defined in claim 19 wherein prior to performing step b), one or more cladding layers are deposited on the inner surface of the preform tube provided in step a).